

ATTACHMENT 1
Saxton Nuclear Experimental Corporation Facility
Updated Safety Analysis Report
Biennial 10CFR 50.59 Report

Introduction

Attached is the biennial update to the Saxton Nuclear Experimental Corporation (SNEC) Facility Updated Safety Analysis Report (USAR) as required by 10 CFR 50.71(e). Also included is the Biennial 10 CFR 50.59 Report required by 10 CFR 50.59(d)(2). This report provides a description of changes, tests, and experiments allowed without prior NRC approval pursuant to the provisions of 10 CFR 50.59 made during the period from March 2002 through December 2003. It also provides a description of the changes made during that same period to the SNEC Facility USAR.

Decommissioning Activities between March 2000 and March 2002

The SNEC Facility was maintained in a safe stable condition during the period from March 2002 through December 2003. Activities included rad-waste processing and shipment, routine surveillance and inspection, conduct of decommissioning activities and performance of Final Status Surveys that are further described below.

During this period, activities inside the Containment Vessel (CV) were concentrated on removal of all concrete, decontamination of the CV shell, conduct of Final Status Surveys and backfill of the CV to approximately 8 feet below grade elevation in preparation for removal of the upper CV shell.

In addition to work in the CV, considerable effort was expended in remediation and survey of the footprint of the former Saxton Steam Generating Station and its associated intake and discharge tunnels, radiological survey of soil and debris piles from previous site excavations and preparation for performing final status surveys of the remainder of the radiologically impacted areas associated with the SNEC Facility.

NRC approval of the SNEC Facility License Termination Plan was received on March 28, 2003

Procedure Changes

Procedures and Station Work Instructions that were changed during the period from March 2002 through December 2003 included radiological controls, radiological characterization and survey procedures; administrative procedures, surveillance, maintenance, and emergency response procedures; and demolition and remediation procedures. All procedure changes were made in accordance with the SNEC Facility Regulatory Review Process which provides for a 10 CFR 50.59 applicability determination, screening process, and when required, a 10 CFR 50.59 evaluation. All procedure changes performed during this period were determined to be allowable

without prior NRC approval and without obtaining a License or Technical Specification Amendment with the exception of the removal of the upper CV shell.

Tests and Experiments

No tests or experiments not described in the SNEC Facility USAR were performed at the SNEC Facility during the period from March 2002 through December 2003.

Facility Modifications

Activities included in this section were determined to be 'changes to the facility' and were performed without prior approval of the NRC. The facility modifications are reflected in Revision-5 to the SNEC Facility Updated Safety Analysis Report. The Regulatory Review Process Procedure was applied to these modifications and they were determined to not require a change to the Facility License and Technical Specifications and to be allowable under the provisions of 10 CFR 50.59 without prior NRC approval. A summary of the modifications and the associated Regulatory Review is provided below:

SWI 01-003.7 "Containment Vessel Lower Head Concrete Demolition"

This activity involved removal of all concrete from the lower head of the CV.

The accident of concern was breaching of the CV during concrete removal activities or as a result of external groundwater pressure. Administrative controls were instituted for demolition activities, which made this event unlikely, and in the unlikely event of a breach material and procedural controls were in place to rapidly affect a repair. With respect to groundwater pressure a series of wells and other groundwater controls were installed external to the CV which were designed to maintain groundwater levels below the CV bottom head.

SWI 03-001 "Removal of DSF/MHB Tunnel and external shell penetrations"

This activity involved removal of the Decommissioning Support Facility (DSF) and miscellaneous other items external to the CV. The issue of concern in this SWI was maintenance of the SNEC Facility Exclusion Area in accordance with the SNEC Facility Technical Specifications. As a result exclusion area controls were moved to the shell of the CV in order to allow removal of the DSF.

SWI 03-002 "CV Shell Removal"

This activity involved removal of the upper CV Shell. Removal of the shell itself requires a change to the Technical Specifications (note this change was issued on January 9, 2004) but certain preliminary cutting and welding activities were permitted.

The accident of concern is a radioactive release from cutting the CV shell. However decontamination of the CV shell has minimized the source term available for release such that it is well below similar events analyzed in the USAR.

SNEC Facility Updated Safety Analysis Report Changes

This update to the SNEC Facility USAR (Revision 5) reflects changes to the facility description resulting from ongoing decommissioning activities. In addition, changes have been made to reflect updated tables and figures to reflect current conditions.

The document was reformatted throughout to achieve consistency in the paragraph numbering and the appearance of text on the pages. Accordingly, this revision replaces revision 3 in its entirety. Where format changes were made, no change bars are shown since no changes were made to the original text other than its appearance.

Changes to the text are denoted with change bars in the right hand margins and are summarized as follows:

1. Cover Page – changed to show current revision (5) dated January 2004
2. Table of Contents, pages i and ii – changed to show current pagination
3. Page 1-1, section 1.1, 2nd paragraph – changed to reflect existing “remaining site structures”
4. Page 1-2, Section 1.1, last paragraph – changed to remove revision date of Environmental Report. This date is reflected in the updated reference in Chapter 6
5. Pages 1-5 and 1-6, Table 1.1-1- changed to reflect major site activities since previous update
6. Page 1-8, Section 1.3.1, 2nd paragraph – changed to reflect current status of the SNEC Facility Containment Vessel (CV)
7. Page 1-8, Section 1.3.1, last paragraph – changed to reflect the disposal of the PCB contaminated mixed waste.
8. Page 1-9, Section 1.3.2.1.B – changed to reflect the current status of the CV
9. Page 1-15, Section 1.3.2.12 – changed to reflect the removal of the CV radiation shielding

25. Page 2-1, Section 2.1.3 – changed to reflect removal of all of the concrete from the CV
26. Page 2-5, Section 2.2.3 & Table 2.3-1 – changed to reflect the updated estimate of radioactive waste to be generated during decommissioning of the SNEC Facility.
27. Page 3-9, Section 3.9.1 – changed to reflect the removal of the SNEC Facility Ventilation System.
28. Pages 3-10 & 3-11, Section 3.10.2 – changed to reflect that the potentially removable activity has been removed from the CV so that there are no radiological consequences resulting from flooding of the CV
29. Page 3-12, Section 3.10.6 – revised to eliminate reference to areas with dose rates of 100 mR/hr as none exist at the SNEC Facility
30. Pages 3-13 & 3-14, Section 3.12 – revised to reflect the analysis of CV Liner cutting which was submitted to the NRC as part of Technical Specification Change Request (TSCR) No. 62 (Note: License Amendment 19 approved TSCR No. 62 on 1/9/04)
31. Page 4-1, section 4.4 – revised to reflect removal of the DSF
32. Pages 5-1 & 5-2, Section 5.1 – organization description updated to reflect the current SNEC Facility and GPU Nuclear Organizations and deleting reference to the organization described in the SNEC Facility PSDAR
33. Page 5-3, Section 5.5 – changed to reflect the Vice-President GPU Nuclear Oversight issues the SNEC Facility Decommissioning Quality Assurance Plan
34. Page 5-5, Figure 5.1-1 – Figure added to reflect the SNEC Organization
35. Page 5-6, Figure 5.1-2 – Figure added to reflect the GPU Nuclear Organization supporting SNEC
36. Page 6-1, Chapter 6 – References 2,8 and 12 have been updated to the current revision and Reference 13 has been added.

SNEC Facility License Termination Plan Changes

1. The License Termination Plan cover was changed to reflect the current revision number and date.
2. The List of Effective Pages was updated to reflect revised page revision numbers.

3. Page 2-95, Table 2-29 – Table updated to provide an explanatory footnote that was inadvertently missing from the previous revision.
4. Page 3-1, Section 3.1 – updated to reflect current status of SNEC Facility decommissioning activities.
5. Page 3-1, Figure 3-1 – note added to figure to indicate that the Decommissioning Support Facility was removed.
6. Page 3-2, Section 3.2.1 – changed to reflect current condition of Area 1 .
7. Page 3-2, Section 3.2.2 – changed to reflect current condition of Area 2.
8. Page 3-2, Section 3.2.3 – changed to reflect current condition of Area 3.
9. Page 3-2, Section 3.2.4 – changed to reflect current condition of Area 4.
10. Page 3-2, Section 3.2.6 – changed to reflect current condition of Area 6.
11. Page 3-2, Section 3.2.7 – changed to reflect current condition of Area 7.
12. Page 3-3, Section 3.2.8 – changed to reflect current condition of Area 8.
13. Page 3-3, Section 3.3 – changed to reflect that not all decommissioning activities were completed prior to the start of the Final Status Survey.
14. Pages 3-3 & 3-4, Section 3.4 – changed to reflect the removal of the Containment Vessel Ventilation System.
15. Page 5-7, Section 5.2.3.2.3 – changed to reflect the revised methodology used to calculate surrogate ratio DCGLs as a result of ongoing NRC Inspection activities.
16. Pages 5-11 through 5-15, Table 5-2 – changed to reflect the removal of the Decommissioning Support Facility, Warehouse and Garage Buildings (with the exception of the floor slab) and the addition of certain areas in the Saxton Steam Generating Station and Line Shack not previously classified.
17. Page 5-26, Section 5.4 – changed to delete the reference to a two-stage sampling process that was inadvertently missed when this option was deleted in Revision 2.
18. Page 5-60, Section 5.6.4.2 – changed to add the term “for gross activity measurements” to clarify when the sign test may be used.
19. Page 5-63, Section 5.7.2 – changed to add a reference to the SNEC Facility procedure for the Final Status Survey Report.

20. Page 5-67 – page Revision Number corrected.

21. Page 5-69, Section 5.9 – changed to add new references.